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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/739,812	12/20/2000	Shigeru Kurosawa	0234-0415P	4040

7590 01/30/2004  
BIRCH, STEWART, KOLASCH & BIRCH, LLP  
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EXAMINER

KINKEAD, ARNOLD M

ART UNIT	PAPER NUMBER
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2817

DATE MAILED: 01/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/739,812

Applicant(s)

KUROSAWA, SHIGERU

Examiner

Arnold M Kinhead

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 04 November 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3-7,9 and 11-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3,4,5,6,7,11,12,21,22,24,26 and 29-31 is/are rejected.
- 7) ☒ Claim(s) 9,13-20,23,25,27 and 28 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) May/ Aug03.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

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DETAILED ACTION

*Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 3, 4, 6, 7, 12, 21, 22, and 26 rejected under 35 U.S.C. 102(b) as being anticipated by Electronic Circuit Parts Handbook(cited by applicant).

The reference cite shows a closed loop circuit oscillator device with an inverting element(logic gate NAND, see figure 5-13, p 67), a crystal resonator with capacitor(C3) in series and resistor(R2); note external capacitors(C1,C2 not coupled in loop). Also, the crystal resonance having a basic operation frequency of 4- 14MHz(see table). Note here that the crystal will operate at a specific frequency depending on the cut of the crystal. CMOS and TTL logic being used(see p. 68, and fig. 5-13 description with TTL and CMOS text in English). The other logic element is shown serially connected external to the loop.

Claims 29 and 30 are rejected under 35 U.S.C. 102(b) as being anticipated by

Luoma et al(US 4,735,081).

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The reference by Luoma et al discloses a 10MHz piezoelectric crystal oscillator(see figure 3, crystals(50, or 52)) that are part of a sensor used to determine parts per million of a particular fuel vapor.

*Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 5,11,24 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Electronic Circuit Parts Handbook(cited by applicant).

The reference cite shows a closed loop circuit oscillator device with an inverting element(logic gate NAND, see figure 5-13, p 67), a crystal resonator with capacitor(C3) in series and resistor(R2); note external capacitors(C1,C2 not coupled in loop). Also, the crystal resonance having a basic operation frequency of 4- 14MHz(see table). Note here that the crystal will operate at a specific frequency depending on the cut of the

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crystal. CMOS and TTL logic being used(see p. 68, and fig. 5-13 description with TTL and CMOS text in English). The other logic element is shown serially connected external to the loop.

The reference does not specify operation of the resonator at a frequency of at least 30 MHz or 500MHz or more, however, as is notoriously well known in the art, and with official notice taken, the specific frequency of operation for crystal resonators depend in part on the cut of the crystal for the particular operation mode(see cite below\*), this specific frequency parameter is conventional for high frequency oscillator implementation.

In light of the above it would have been obvious for one of ordinary skill in the art to have recognized that the crystal oscillator as shown in the handbook cite may be required to be used with a particular cut crystal so that the basic high frequency operation characteristics are met which includes the operation at 30 MHz or even 500 MHz and above as desired. Again the cut of the crystal determines in part the mode of

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operation for that resonator as is notoriously well known in the art and this allows for the desired high frequency output.

*Allowable Subject Matter*

5. Claims 9 , and 13-20, 23, 25,27 and 28 are allowed. The examiner could not find fair suggestion for the crystal oscillator as claimed in addition to the crystal being a sensor for chemical measurement of a parameter.

\*The reference by Kleinberg of record, col. 4, lines 59-65, describes various frequency values for operation based on the cut of the crystal....

*Response to Arguments*

6. Applicant's arguments with respect to claims 1,3,4,6,7,12,21,and 22, have been considered but the examiner maintains that this reference does provide for an operational oscillation frequency between the limits as claimed. The basic oscillation frequency was pointed out above; there is no recitation in the claim that excludes the change of a circuit constant as being argued in the response(see first page of response, second para.)

*Conclusion*

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action.

Accordingly, THIS ACTION IS MADE FINAL. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and

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the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Arnold M Kinkead whose telephone number is 571-272-1763. The examiner can normally be reached on Mon-Fri, 8:30 am -5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pascal can be reached on 571-272-1769. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7724 for regular communications and 703-308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.



Arnold M Kinkead  
Primary Examiner  
Art Unit 2817

Arnold Kinkead

Jan 23, 2004